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Back-To-School: Review Immunization Records Early *What doctors and parents need to know about immunizations and school*

For most children the end of summer vacation means putting away summer gear and pulling out school supplies. But, what about immunization records? Checking immunization records is a valuable task that health care providers and parents should integrate into their annual back-to-school routine for children, regardless of age or grade levels.

As children move to higher grade levels, they may be missing vaccine doses or have past due vaccine doses. Moreover, there may be new immunization requirements for children at higher grade levels (e.g. college requirements); and there may be other age-appropriate immunizations recommended by the Advisory Committee of Immunization Practices (ACIP) (e.g. 2005 meningococcal vaccine recommendation for pre-adolescents). While the immunization requirements for childcare and school

entry may be complex, there are some guidelines health care providers should know.

Who Must Present an Immunization Record and When?

Proof of immunizations must be provided by all children under 18 years of age, at or before entry to: (1) private or public California childcare, (2) pre-school, (3) kindergarten, (4) 1st grade, if skipping kindergarten, and (5) seventh (7th) grade, if attending for the first time. Also, all students transferring from out of the country into any grade level must provide proof of immunizations at or before entry. There is no grace period for admission if these students do not present a valid immunization record. However, students transferring within California or from other states

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VACCINE	Table 1. NUMBER OF IMMUNIZATIONS REQUIRED TO ENTER, BY AGE OF CHILD							
	Child Care/Pre-School					School		
	2-3 Months	4-5 Months	6-14 Months	15-17 Months	18+ Months	4-6 Years	7-17 Years	7 th Grade
Polio	1	2	2	3	3	4 ^a	4 ^b	
DTP/DTaP/Td	1	2	3	3	4	5 ^a	3 ^b	[1 ^c]
MMR				1 ^d	1 ^d	2 ^e	1 ^e	2 ^e
Hepatitis B	1	2	2	2	3	3		3 ^f
Hib	1	2	2	1 ^d	1 ^d			
Varicella					1 ^g	1	1-2 ^h	

Source: California Immunization Handbook for Schools and Child Care Providers 7th Edition July 2003

^a This number includes kindergarten boosters. If a child is 4-6 years old, 3 polio and 4 DTP meet the requirement if at least 1 polio and 1 DTP dose were given on or after child's 4th birthday.

^b For children 7-17 years old, 3 polio and 3 DTP or DT/Td meet the requirement if at least 1 polio and 1 DTP or DT/Td were given on or after child's 2nd birthday. For students 7 years old and older, pertussis immunization is not required.

^c A Td booster is recommended but not required

^d One dose must be given on or after the 1st birthday regardless of any previous doses given. The Hib requirement applies only to childcare children under age 4 years and 6 months.

^e One dose on or after the 1st birthday is required for grades 1-6 and 8-12. Mumps immunization is not required for students age 7 years and older.

^f Two doses of the 2-dose adolescent hepatitis B formulation along with provider documentation that the 2-dose formulation was used for both doses and both doses were received at age 11-15 years old meet the requirement.

^g If child had chickenpox disease, doctor must note it on the immunization record to meet the requirement.

^h Required for children enrolled in California pre-school or kindergarten or transferring from out-of-state/out-of-country after July 1, 2001. Children 13 years old or older need 2 doses of varicella or had disease to meet the requirement.

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and homeless or foster children have up to 30 days after entry into childcare or any grade level to present a valid immunization record. To be admitted to school, these children must have all required immunizations; or, if previously immunized, these children must have received all doses that they could have received to date on the condition they receive missing doses as they become due.

What Is Considered Valid Documentation of Immunizations?

The most commonly accepted immunization records include, but are not limited to the following:

- Personal immunization record (e.g. yellow California Immunization Record) completed by a health care provider.
- California School Immunization Record (i.e. blue card) completed by a previous childcare, pre-school, or school.
- Foreign or out-of-state immunization record.
- Child Health and Disability Prevention (CHDP) physical examination form.

Regardless of the type of immunization record a child has, it must contain the child's name, date of birth, type of vaccine administered, physician or clinic name, and the date (month/year or month/day/year) of each immunization. The full month/day/year is especially important when trying to verify if a child received a vaccine by a certain age, such as getting the measles, mumps, and rubella (MMR) vaccine on or after the first (1st) birthday.

What Immunizations Are Required? (Pre-school - 12th Grade)

Determining the number of doses a child needs to meet childcare and school entry requirements is a daunting task for many childcare providers and schools, especially if a child is past due for immunizations. In some cases, school requirements may be less than the ACIP recommendation. Table 1 provides a detailed breakdown of immunization requirements for children by age group and grade level.

In general, children entering childcare or pre-school require fewer doses and different immunizations than children entering kindergarten. As children move on to higher grade levels, they are expected to meet the requirements for their grade level and continue to meet other existing requirements for their age. If older children are missing doses, they may be required to have fewer doses, as long as they received the minimum number of doses on or after a certain age. For example, 4 doses of polio at any age meets the requirements, but 3 doses of polio meet the requirements if the child is 4-6 years old and at least 1 dose was given on or after the child's 4th birthday or if the child is 7-17 years old and at least 1 dose was given on or after the child's 2nd birthday.

Additional tips to remember when reviewing a child's immunization record:

- Childcare and school requirements are based on the number of doses a child received **BEFORE** the admission date, regardless of the spacing between doses previously received.
- Health care providers should use the ACIP approved minimum intervals between doses to get a child caught up on any missing or past due immunizations.
- Hib (*Haemophilus influenzae* type b) vaccine is **not** a requirement for grades K-12, but is a requirement for childcare or pre-school (age 4 years and 6 months old or younger).
- All children 15 months old or older should receive the required number of doses for MMR and Hib on or after the first (1st) birthday, regardless of previous doses given.
- For Fall 2005, continuing California students entering 4th grade or lower and any out-of-state and out-of-country transfer students must meet the varicella (chickenpox) requirement for their age group (see Table 1).

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- Unlike the MMR and Hib requirement, there is no 1st birthday requirement for varicella.
- If a child had chickenpox disease, a health care provider must document this on the child's immunization record.
- All continuing California students grades K-12 are required to have 3 doses of hepatitis B (or 2 doses of the 2-dose adolescent formulation given between 11-15 years old) and 2 doses of MMR on or after the 1st birthday.
- Out-of-state/out-of-country transfer students entering grades 1-6 or 8-12 only need 1 dose of MMR on or after the 1st birthday.

Regardless of the type of immunization record a child has, it must contain the child's name, date of birth, type of vaccine administered, physician or clinic name, and the date (month/year or month/day/year) of each immunization.

What If A Child Is Missing Shots or Is Not Immunized?

Children who are not immunized, have no immunization record, or are past due for missing doses should be referred to their regular health care provider or local clinic to start a vaccination series or get their missing doses before entry into childcare, pre-school, or school.

If children are as clinically up-to-date as possible, but need more doses that are not due until after entry into childcare, pre-school or school (i.e. conditional entrants), they can be admitted on the condition they receive the missing doses as those doses become due. Childcare, pre-schools, and schools will set due dates for missing doses and then exclude any conditionally admitted students who do not receive their missing doses by the due date. If a child is admitted into childcare, pre-school, or school and is later found to be "non-compliant" with the immunization requirements, parents have up to 10 school days to immunize their child or else the child would be excluded.

There are some children who are not immunized because their parents have personal or religious beliefs against one or all immunizations. Childcare centers, pre-schools, and schools can grant a personal belief exemption (PBE) to such parents at any time for one or all immunizations (a physician's note is not necessary). Other children may not be immunized for medical reasons, either permanent (PME) or temporary (TME). Parents must provide the childcare center, pre-school, or school with a written statement from a licensed physician indicating the medical reason for not immunizing the child. If a child cannot be immunized for a temporary medical reason (e.g. recent receipt of blood products), the physician must specify a date when the child can resume

immunizations. If a child is still not immunized by that date, the childcare center, pre-school, or school must exclude that child.

Children who are not immunized or missing doses for any reason may not be allowed to attend childcare, pre-school, or school during an outbreak of a vaccine preventable disease until the local health department has investigated the outbreak and deemed the outbreak over. The purpose of the immunization requirements for childcare and school entry is to keep their learning environment safe and healthy. Regular review of immunization records and timely follow-up of missing doses can protect children's health and prevent unnecessary absences. In Los Angeles County, children 18 years of age or younger can receive free or low-cost immunizations even if they do not have insurance or a regular health care provider. Parents can call 1-800-427-8700 to find the most convenient clinic.

For more information about childcare and school immunization requirements, call the Los Angeles County Immunization Program at (213) 351-7800 or visit www.lapublichealth.org/ip/schoolIZ.htm.

Full details about the laws and regulations are contained below:

1. California Health and Safety Code Division 105, Part 2, Chapter 1, Sections 120325-12380
2. California Health and Safety Code Division 105, Part 2, Chapter 1.5, Sections 120390-120390.7
3. California Health and Safety Code Division 2, Chapter 3.4, Article 2, Section 1596.813
4. California Health and Safety Code Division 2, Chapter 3.5 Article 3, Section 1597.05
5. California Health and Safety Code Division 2, Chapter 3.6, Section 1597.541
6. California Code of Regulations Title 17, Division 1, Chapter 4, Subchapter 8, Article 1, Sections 6000-6015
7. California Code of Regulations Title 17, Division 1, Chapter 4, Subchapter 8, Article 2, Section 6020
8. California Code of Regulations Title 17, Division 1, Chapter 4, Subchapter 8, Article 3, Sections 6025-6051
9. California Code of Regulations Title 17, Division 1, Chapter 4, Subchapter 8, Article 4, Sections 6055-6060
10. California Code of Regulations Title 17, Division 1, Chapter 4, Subchapter 8, Article 5, Sections 6065-6075

Community Associated Methicillin-Resistant Staphylococcus Aureus: an Emerging Infectious Disease in Los Angeles County

Methicillin-resistant Staphylococcus aureus (MRSA) is a well-known nosocomial pathogen but there have been increasing reports in the U.S., and on almost every continent, of MRSA skin infections in individuals with no known healthcare association.¹ In a recent study on the East Coast, the annual incidence of community associated MRSA (CAMRSA) was 18-25.7/100,000 people; 23% were hospitalized.² There have been reports of CAMRSA in multiple groups in Los Angeles County, including at the county Jail.³ The prevalence of CAMRSA in the county is growing. In one local Emergency Room, 64% of skin and soft-tissue infections were caused by MRSA in 2003-2004 versus 29% in 2001-2002.⁴ Since CAMRSA is resistant to the usual first line antibiotics for skin infections (penicillins, β -lactams) it is important for clinicians to be able to recognize CAMRSA infections and treat appropriately.

Clinical and Epidemiological Hallmarks

CAMRSA is distinct clinically from healthcare associated MRSA (HAMRSA). HAMRSA is associated with invasive disease (pneumonia, bloodstream infections, surgical site infections) in older persons who have significant exposure to healthcare (hospitalized patients or in those on dialysis or who have indwelling catheters). However, in a recent population review of CAMRSA, 77% of the cases were skin and soft tissue infections (often misdiagnosed as "spider bites"), 10% were traumatic wound infections, and only 6% were invasive including bacteremia, meningitis, and osteomyelitis (an additional 2% were pneumonia).² While the majority of CAMRSA infections are skin infections, severe consequences of CAMRSA have been reported including necrotizing fasciitis, necrotizing pneumonia, and death.¹ Fortunately, these outcomes are rare.

Risk factors for CAMRSA include compromised skin integrity, close crowded living conditions, sub-optimal cleanliness, frequent skin to skin contact, contaminated surfaces and shared items.⁵ Outbreaks have been reported in athletes (especially football players), the military, correctional facilities, schools, and men who have sex with men (MSM). Risk factors in outbreaks have been primarily sharing personal items (towels, razors, soap) and equipment.^{6, 7} In a study based on Los Angeles County, risk factors among HIV+ MSM included drug use and recent sexually transmitted infections.⁸ Drug users and the homeless have also been found to have a relatively high level of CAMRSA in San Francisco and these populations overlap with those in correctional facilities.⁹ However, CAMRSA has been reported in people with no known risk factors. Children appear to be at higher risk for CAMRSA.² Having a close contact with a skin infection is a risk factor for CAMRSA. It is not clear if immunosuppression is a risk factor for CAMRSA.

Laboratory Hallmarks

HAMRSA and CAMRSA can be differentiated with several laboratory tests. CAMRSA tends to be more sensitive than

HAMRSA to oral antibiotics including clindamycin, tetracycline, and trimethoprim-sulfamethoxazole (TMP-SMX) with variable sensitivity to the fluoroquinolones or erythromycin. In strains with erythromycin resistance, the D-test is used to determine the presence of inducible clindamycin resistance.

CAMRSA is further distinguished from HAMRSA by the presence of genes for Panton-Valentine leukocidin (PVL), a potent toxin that causes tissue necrosis, and the type IV staphylococcal cassette chromosome (SCC)mec.¹ Furthermore, CAMRSA and HAMRSA have distinctly different pulsed-field gel electrophoresis (PFGE) patterns, indicating that they derived from different strains of Staphylococcus aureus.¹⁰ In Los Angeles County, the prevalent CAMRSA PFGE pattern is USA 300.

Characteristic	HAMRSA	CAMRSA
Clinical	Surgical site infections, invasive	Skin infections, "bug bites", rarely invasive, multiple, recurrent
Epidemiology	Old, healthcare	Young, athletes, drug users, correctional facilities and military
Antibiotic Resistance	Multi-drug resistant	β -lactam resistant
Molecular Markers	PVL- SCCmec I-III	PVL+ SCCmec IV

Summary Chart:

Healthcare acquired CAMRSA

There have been several reports of patients acquiring strains of CAMRSA while in hospitals. These outbreaks have occurred in healthy newborn nurseries, a post-partum ward, and in a burn unit.¹¹⁻¹³ Poor infection control probably contributed to the spread of CAMRSA in the hospitals.

Treatment

For Wounds

Given the increasing prevalence of CAMRSA skin infections, the era of empiric treatment of skin infections with β -lactam antibiotics may soon be over, especially for invasive infections. There are no specific clinical findings associated with CAMRSA (other than the common misdiagnosis of "spider bite.") Physicians are encouraged to perform incision and drainage (I&D) on all appropriate lesions and send the product for culture.⁵ Cultures should be sent, even if antibiotics are not being considered for treatment as the antibiogram can guide subsequent antibiotic treatment should the patient not improve with wound care. Warm compresses and/or I&D might adequately treat many CAMRSA skin infections without the use of antibiotics. Several studies have shown that selected patients do just as well with wound care with or without β -lactam antibiotics, as they do with appropriate antibiotics.^{2,14}

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For those infections that require antibiotics, physicians should carefully monitor trends in organisms and antibiotic susceptibilities in skin infections in their practices. Physicians should ask patients about risk factors for CAMRSA or if they have a close contact with a skin infection. With an increasing prevalence of CAMRSA, physicians should consider empiric treatment of skin infections with antibiotics that have activity against CAMRSA such as TMP-SMX, clindamycin, or tetracyclines. If a physician considers group A streptococcus as a cause of the skin infection, then clindamycin would be a better choice. Guidelines by the Infectious Diseases Society of Washington provide a good overview of empiric treatment for skin infections in the era of CAMRSA and may be found at the website <http://www.metrokc.gov/health/providers/epidemiology/MRSA-guidelines.pdf>.

Decolonization

At this time, LACDHS does not recommend attempting to decolonize patients upon first presentation with CAMRSA. Decolonization should be reserved for recurrent infections in a person who is not otherwise being repeatedly re-exposed to the organism. Decolonization may include topical mupirocin to the nares and showers with specific antimicrobial soap (chlorhexidine) for five days. Before undertaking a decolonization routine, physicians should question patients about ongoing exposure to CAMRSA including household and sexual partners with skin lesions and other activities. In some circumstances, it may be prudent to recommend simultaneous decolonization of an entire household or of sexual partners.

Education

Since MRSA can colonize the nares, groin, rectum, axilla, and umbilicus it is important to educate the patient about good hygiene including washing hands, taking showers, using soap, using proper laundry procedures, and ensuring a clean home environment. Bandages should be disposed so that other household members are not exposed to them. Guidelines for patients can be found at <http://lapublichealth.org/acd/MRSA.htm>.

Infection Control

To protect patients against CAMRSA in healthcare settings, physicians need to practice exemplary infection control including washing hands between patients and using contact precautions for all patients with draining wounds. These measures will protect healthcare workers and their patients.

Public Health Notification

At this time, MRSA is not a reportable disease in Los Angeles County, though some jurisdictions might have special surveillance projects. However, it is the duty of every healthcare practitioner to notify the local health department of an outbreak of any disease (Title 17, California Code of Regulations, § 2500). If a physician identifies an outbreak of CAMRSA in an athletic team, a group home, or in a group of people with clear epidemiologic links, the

physician should call the Acute Communicable Disease Control Program at 213-240-7941. We can assist with control measures.

Further Information

The county health department has developed a website with clinical guidelines on CAMRSA (including pictures of typical lesions) and patient education. We have also developed and posted a comprehensive guideline to the prevention of the transmission of Staph in non-healthcare settings which can be used for public settings and can be adapted for household use. This information can be found on the website: <http://lapublichealth.org/acd/MRSA.htm>.

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Infant Mortality in the Antelope Valley: Preliminary Findings from the Los Angeles Mommy and Baby (LAMB) Survey

Background

The following article is a follow up to the October 2004 issue of *The Public's Health* where we wrote about the infant mortality increase among African Americans in Antelope Valley (For the complete report, please visit: www.lapublichealth.org/wwwfiles/ph/ph/TPH_October_2004.pdf).

The Antelope Valley Service Planning Area 1 (SPA 1) infant death rate rose from 5.0 in 1999 to 10.6 deaths per 1,000 live births in 2002. Although SPA 1 represented only 6% of the infant deaths reported in Los Angeles County (LAC), the number of deaths per 1,000 live births (mortality rate) surpassed all other SPAs.

In response to distressing infant mortality statistics in Antelope Valley, the Maternal, Child, and Adolescent Health (MCAH) Programs conducted the Los Angeles Mommy and Baby (LAMB) Survey to assess potential risk factors for low birth weight (LBW) and preterm (PT) birth, adverse birth outcomes that are associated with infant mortality. The study examined areas that are known to have an impact on birth outcomes, including preconception health, interconception health, prenatal care, maternal medical conditions during pregnancy, and psychosocial and behavioral risk factors.

The LAMB project was conducted from October 2004 to April 2005. Three hundred sixty-six (54% response rate) postpartum women residing in SPA 1 completed surveys; 84 (23%) experienced adverse birth outcomes. The study identified factors that occurred before and during pregnancy that increased the likelihood of having adverse birth outcomes.

LAMB Questionnaire

The LAMB survey questionnaire contains questions on preconception health (e.g., access to care, maternal health history); prenatal care (e.g., prenatal care satisfaction, utilization, and content); maternal medical conditions during pregnancy; psychosocial risk factors (e.g., stressful life events, food insecurity, neighborhood safety); and behavioral risk factors (e.g., alcohol, drug, and tobacco use). The questions were primarily drawn or adapted from several validated state and national surveys (e.g., University of California, Berkeley's Maternal and Infant Health Assessment [MIHA]; CDC's Pregnancy Risk Assessment Monitoring System [PRAMS]). Focus groups reviewed the questionnaire to ensure that the instrument was linguistically appropriate and included topics relevant to SPA 1 maternal and child health concerns. The survey was also translated into Spanish and administered to mothers who identified themselves as foreign born Latinas.

Preliminary Data Analysis

The following section highlights the major preliminary study findings. The preliminary findings focus on the identification of risk factors that have an impact on adverse birth outcomes.

Compared to mothers who delivered normal birth weight babies, women who experienced adverse birth outcomes were (See Table 1):

During the preconception and interconception time periods:

- Twice as likely to be uninsured (OR=2.3, p=0.004)
- Three times more likely to have high blood pressure (OR=3.4, p=0.06)
- Nearly four times more likely to have had a previous LBW or PT birth (OR=3.7, p=0.0003)

During the pregnancy period:

Prenatal Care Experiences:

- Twice as likely not to have "early and adequate" prenatal care (OR= 2.3, p=0.01)
- Nearly three times as likely not to gain the ideal amount of weight during pregnancy for women who had normal or obese weight prepregnancy (OR=2.7, p<0.05)

Maternal Medical Conditions

- Two and one half times as likely to experience early labor pains (OR=2.5, p=0.0002)
- Twice as likely to have high blood pressure during pregnancy (OR=2.1, p=0.02)
- Eleven times more likely to have early water break (OR=10.9, p<0.0001)

Psychosocial Factors

- Twice as likely not to rate their most recent pregnancy as a happy time with few problems (OR=1.9, p=0.02)
- Over twice as likely to feel unsafe in their neighborhoods (OR=2.4, p=0.02)

Risk-Taking Behaviors

- Three times more likely to smoke during pregnancy (OR=3.2, p=0.0005).

To improve birth outcomes in Antelope Valley, the LAMB study results suggest:

Continuous medical insurance that covers preconception and interconception care

- Increasing health insurance coverage among nonpregnant women must be a priority for advocates of maternal and child health.

Promote preconception and interconception care

- Preexisting medical conditions, such as high blood pressure, must be identified and controlled before pregnancy.
- Women who have given birth to a low birth weight, preterm, and/or stillborn infant should be evaluated for risk factors before becoming pregnant again.

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Risk-appropriate obstetrical care, including high-risk care

- Increase the number of women who receive early and adequate prenatal care.
- Smoking cessation during pregnancy must be a priority.
- Women in high-risk pregnancies should be monitored and educated about high blood pressure, early labor, and other complications that could arise during high-risk pregnancies.

Collaboration among all community stakeholders

- Increase awareness of mental health issues and work with police, community organizations, and Churches to improve neighborhood safety.

Close to 12,000 women across Los Angeles County who delivered a baby in the calendar year 2005 may receive a LAMB survey in the mail starting in June 2005. The County LAMB survey is available in English, Spanish and Chinese.

We are asking all health care providers to encourage their patients who receive the survey packets to complete and return the surveys promptly. For additional information about the LAMB project please contact Dr. Shin "Margaret" Chao at 213-639-6470.

Table 1

Table 1. Health Factors, Maternal Medical Problems and Risk-Taking Behaviors Associated with Low Birth Weight/Preterm

	Low Birth Weight/Preterm				Total	p-value	⁹ OR	¹⁰ 95% CI	
	Yes	(%) [†]	No	(%) [†]					
	Insured Before Pregnancy								
	Yes	59	71.08	237	84.95	296	0.004*	1.00	
	No	24	28.92	42	15.05	66		2.30	1.29 4.09
Preconception and Interconception Period	High Blood Pressure Before Pregnancy								
	Yes	5	5.95	5	1.81	10	0.07 ^B	3.44	0.97 12.20
	No	79	94.05	272	98.19	351		1.00	
	^{1,2}Previous LBW/PT Infant								
	No	40	68.97	155	89.08	195	0.0003**	1.00	
	Yes	18	31.03	19	10.92	37		3.67	1.76 7.64
Prenatal Care Experience	³Adequate Prenatal Care								
	Yes	64	76.19	247	88.21	311	0.01*	1.00	
	No	20	23.81	33	11.79	53		2.34	1.26 4.35
	⁴Ideal Weight Gain During Pregnancy (By Prepregnancy BMI⁵)								
	Underweight								
	Yes	⁶ -	-	-	-	-	0.08	1.00	
	No	-	-	-	-	-		3.83	0.81 18.09
	Normal Weight								
	Yes	20	60.61	86	80.37	106	0.02*	1.00	
	No	13	39.39	21	19.63	34		2.66	1.14 6.20
Overweight									
Yes	⁶ -	-	-	-	-	0.78	1.00		
No	-	-	-	-	-		1.21	0.31 4.75	
Obese									
Yes	9	47.37	49	71.01	58	0.05*	1.00		
No	10	52.63	20	28.99	30		2.72	0.96 7.70	
Maternal Medical Conditions	⁷Early Labor Pains								
	No	38	46.34	191	68.71	229	0.0002*	1.00	
	Yes	44	53.66	87	31.29	131		2.54	1.54 4.20
	High Blood Pressure During Pregnancy								
	No	64	78.05	245	88.45	309	0.02*	1.00	
	Yes	18	21.95	32	11.55	50		2.15	1.14 4.08
	⁷Water Broke Early								
	No	64	78.05	272	97.49	336	<.0001**	1.00	
	Yes	18	21.95	7	2.51	25		10.93	4.38 27.27
Psychosocial Factors	Reported Feeling Less Happy During Pregnancy								
	No	52	64.2	217	77.5	269	0.02*	1.00	
	Yes	29	35.8	63	22.5	92		1.92	1.13 3.28
	Perceived Neighborhood Safety								
	Safe	61	82.43	241	91.98	302	0.02*	1.00	
	Unsafe	13	17.57	21	8.02	34		2.45	1.16 5.16
Risk-Taking Behaviors	Ever Smoke During Pregnancy								
	No	70	86.42	264	95.31	334	0.005*	1.00	
	Yes	11	13.58	13	4.69	24		3.19	1.37 7.43

[†]These numbers exclude new mothers

[‡]LBW/PT = Low Birth Weight/Preterm

³Adequacy of Prenatal Care Utilization Index (APNCUI). Includes factors of timing of care and the number of visits

⁴Met minimum ideal weight gain: Underweight(<28-40 lbs.), Normal weight (25-35 lbs.), Overweight (15-25 lbs.) Obese (at least 15 lbs)

⁵Body Mass Index: Underweight(<19.8), Normal (19.8-26), Overweight (26-29), Obese (29+)

⁶Due to confidentiality reasons, any category having less than 5 cases is not shown in this table

⁷> 3 weeks before due date

⁸Fisher's Exact Test

⁹OR = Odds Ratio

¹⁰CI = Confidence Interval

+ column percent

*Significant, p < 0.05

**Significant, p < 0.0001

NURSE-FAMILY PARTNERSHIP – LOS ANGELES

The Nurse-Family Partnership (NFP) Project Los Angeles (LA) was piloted as a community collaborative in 1997 as the “Esperanza” program at the Los Angeles, California Hospital and Medical Center. Using public health nurses employed by the Department of Health Services (DHS), the NFP utilizes the Prenatal and Early Childhood Nurse Home Visitation model developed by Dr. David Olds in Elmira, New York 25 years ago. NFP expanded services countywide in February 2000 and is managed under the DHS Maternal, Child and Adolescent Health Unit. The unit currently employs 17 Public Health Nurses (PHNs), one who is employed by the Long Beach City Health Department.

The NFP-LA is currently looking to expand this highly successful program into several at-risk populations of first-time pregnant young women, including those in children’s protective services and/or served through our Probation department, and those who are mentally ill.

The NFP model has been shown (through extensive research using a control group for comparison) to enable at-risk mothers and their children get and stay on the path to a meaningful and productive life. It targets low-income, socially disadvantaged, first-time mothers and their children to improve pregnancy outcomes, qualities of parental care giving and associated child health, and maternal life-course development. Follow-up begins during the last trimester of the mother’s pregnancy, beginning at or before her 28th week of pregnancy continuing through the first two years of the child’s life.

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Model Overview

The NFP model guides PHNs in home visitation services to single, young, first-time pregnant women who are at high risk due to their socioeconomic status. The program consists of several key components that research and experience show to be important to yield consistently good outcomes for parents and their children. For example, the program focus is on families who have a greater need for preventive services, and it promotes positive health-related behaviors and an improved quality of infant care giving. Home visits are initiated by PHNs before the mother’s 28th week of pregnancy in order to bond and establish trust with the mother and extends through the first two years of the child’s life.

PHN home visitors have extensive training and follow strict program protocols that focus on five domains of functioning:

- personal health
- environmental health
- maternal role development

- maternal life-course development; and
- family and friends support.

The PHN home visitor assesses the mother and family, provides in-home training and guidance in maternal, child and family health, and provides referrals, education or counseling for problems identified during the course of follow up.

Effectiveness of Model Program

Dr. David Olds demonstrated that this program can achieve several positive maternal and child outcomes by using randomized clinical trials in Elmira, New York and Memphis. He has followed families in Tennessee for over 20 years,⁵ and the NFP is now being used in 250 communities within 23 states. Dr. Olds continues to collect data from all national NFP sites to monitor outcomes and support quality assurance efforts.

NFP-LA data from 2000 to 2005 for NFP graduates shows:

- 5.3% of NFP-LA infants were born premature compared to a 9.9% national NFP average for national NFP graduates); prematurity rates for the predominant ethnic groups served were 4.6% for Hispanics (8.0% national NFP average) and 7.0 for African Americans (12.9% for national NFP average).
- 4.5% of NFP-LA graduates’ infants were born at low birth weight compared to 8.3 national NFP average; low birth rates for the predominant ethnic groups were 4.1% for Hispanics (7.0% for national NFP average) and 9.3% for African Americans (13.5% for national NFP average)
- NFP-LA’s rates for completion of recommended infants’ (age 12 months) immunizations were 97-99% with the exception of HIB (87%). The immunization rates for toddlers, age 24 months, were 98-99% with the exception of the DPT/DTaP (76%) and HIB (83%). DPT/DTaP and HIB rates may be underreported because of dosage patterns among pharmaceutical products.
- 78% of NFP-LA initiated breastfeeding (62% for national NFP average), and 21% continued to breastfeed at 12 months infant age (15% national NFP average).

Extensive research has been performed on this home visitation model, and shows that program costs, which are relatively high compared to most home visiting programs due to the exclusive use of nurse home visitors, are fully recovered by the time the child is 4 years old. The cost-effectiveness studies considered a full spectrum of possible expenses to society, such as medical bills, protective services involvement, criminal justice and incarceration and social welfare that are avoided by this intervention program.

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Guiding Principles

DHS has been an active participant in developing linkages and integrating services within and among the health and human service departments and partners within the county.

NFP staff work to incorporate the private sector community based organizations, especially those involved in other models of home visitation, by linking them with the NFP Program. In collaboration with other home visitation programs, NFP hopes to re-invigorate the Home Visitation Network they began several years ago that enabled like programs to share home visitation training seminars and specialized in-service classes.

Linking referral systems, participating in joint projects (e.g., resource directory development, cross-referral processes, community resource development, etc.) and developing relationships between the many agencies that care for high risk

mothers is desperately needed to build a better, bigger and more comprehensive system of care for mothers at risk.

Please contact the Project Administrator, Jeanne Smart, at (213) 639-6461 for more information.

References:

- ¹ Henderson, C.R., Tatelbaum, R., and Chamberlin, R. (1986). Improving the delivery of prenatal care and outcomes of pregnancy: A randomized trial of nurse home visitation. *Pediatrics*, 77(1), 16-28.
- ² Olds, D., Henderson, C., Tatelbaum, R., & Chamberlin, R. (1988). Improving the life-course development of socially disadvantaged parents: A randomized trial of nurse home visitation. *American Journal of Public Health*, 78(11), p.1436-1445.
- ³ Nurse Family Partnership Los Angeles Evaluation Report 5 Initiation (August 1999 through January 31, 2005) NFP Graduates and Trends in Program Implementation.

The ABCs of HPV Testing

Cervical infection with one of approximately 20 types of “high-risk” human papillomavirus (hr-HPV) is a causal factor in the development of almost all cervical cancers. Although hr-HPV is the most common sexually transmitted virus found in sexually active women, 90% of new infections spontaneously resolve within two years. Death from cervical cancer has decreased in the U.S. by more than 70% in the last 50 years due to the widespread use of the Papanicola (Pap) test.

Recently, improvements in cervical cancer screening include new language for defining cytological findings and FDA approval for the use of HPV testing in combination with cytology for the detection of cervical cancer. The only commercially available test for HPV DNA is the Hybrid Capture 2 HPV DNA Assay, manufactured by Digene Diagnostics. This test has only been approved for use with cervical specimens (although the test has been used on vaginal specimens and in men for research purposes). At this time, there is no FDA-approved HPV test for use in men.

The following is a brief discussion of the most current recommendations for hr-HPV testing:

A ASCUS Pap results

ASCUS -- or atypical squamous cells of undetermined significance -- is the most commonly reported level of abnormality in the 2001 Bethesda System terminology and is considered inconclusive. Between 1998 and 2003, the ASCUS-LSIL Triage Study (ALTS) Group looked at the use of HPV DNA testing as a means to manage equivocal Pap results and reduce the number of women referred for unnecessary follow-up

and treatment. This research concluded that the use of HPV testing to triage ASCUS Pap results is at least as sensitive as immediate colposcopy for detecting cervical interepithelial neoplasia (CIN) 3, and by using this method, half as many women are referred for follow-up colposcopy, thus avoiding the psychological distress and possible physiological suffering from traditional treatment of ASCUS. This strategy is recommended for all women who meet standard cervical cancer screening guidelines and has been shown to be cost-effective.

High-risk HPV DNA testing can be done as either part of liquid-based cytology or in addition to a conventional Pap test. Follow-up recommendations are as follows:

- ASCUS Pap result + *positive* hr-HPV = refer to colposcopy
- ASCUS Pap + *negative* hr-HPV = repeat Pap in 6-12 months

B Beyond Age 30

What about using hr-HPV DNA testing for primary cervical cancer screening? Several studies have shown a very high sensitivity of hr-HPV DNA testing for the identification of women with CIN 2 or greater in cervical cancer screening programs. In February of 2004, a consensus workshop was convened to develop interim guidelines for use of HPV testing in conjunction with cytology for primary cervical cancer screening. This group recommends using cervical cytology and hr-HPV DNA testing together for primary screening in women

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The ABCs of HPV Testing...from page 9

aged 30 or over. The FDA has given approval for this use of the HPV test. This recommendation is restricted to those women aged 30 or over due to the high-prevalence and transient nature of hr-HPV infection in young women. Additionally, until data from more long-term studies are available, these recommendations are to be used as interim guidance.

Women over 30 who test positive for hr-HPV DNA but negative by cytology are at low-risk of having high-grade cervical neoplasia; therefore, colposcopy is not recommended. Instead, both hr-HPV testing along with Pap testing should be repeated in these women after 6-12 months. If the results of either test are then abnormal, a colposcopy should be preformed.

hr-HPV DNA testing in combination with cervical cytology is NOT recommended for the following groups:

- Women aged less than 30 years
- Women who are immunosuppressed for any reason, including HIV
- Following total hysterectomy for benign disease

C Consistent screening depends on results

Women **aged 30 and over** who test negative for both hr-HPV and cervical cytology may wait three years to be re-screened. This recommendation is based on studies that show there is a very high negative predictive value for underlying CIN 2 or greater disease in women with combined negative test

results. However, some experts feel that for women to be considered for screening at three year intervals, her last three prior Pap tests need to be normal.

Here is a summary of recommendations for different combinations of test results when using HPV testing as an adjunct to Pap screening in women aged 30 and over:

Pap Neg + hr-HPV Neg = re-screen in three years with either a Pap alone or Pap and HPV test combination.

Pap Neg + hr-HPV Positive = repeat both tests in 6-12 months

- If either test is positive at 6-12 months, refer for colposcopy
- If both tests are negative, re-screen in three years

Pap ASCUS + hr- HPV Positive = refer for colposcopy

Pap ASCUS + hr- HPV Neg = repeat Pap in 6-12 months

Pap ASC-H, LSIL or HSIL = refer to colposcopy

For additional information, consensus guidelines for the management of women with cervical cytological abnormalities are available at www.jama.ama-assn.org/cgi/content/full/287/16/2120.

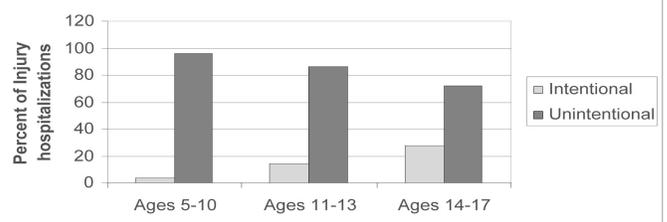
Back to School Safety

Injuries are the 4th leading cause of death for people between the ages of 1-44 in Los Angeles County. An estimated 2 million children, ages 5-17 years in Los Angeles County spend one-fourth of their time in school. Each year an average of 5,900 children between the ages of 5 and 17 years of age are hospitalized and another 300 die from injuries. Nationally, the most frequent cause of school related injury is falls (43%), sporting activities (34%), followed by assaults 10%. In Los Angeles County youths are similar in that most injury hospitalizations are unintentional (motor vehicle occupant, pedestrian, bicycle, etc.). In 2003, of all injury-related hospitalizations, 96% of elementary school children, aged 5-10; 86% of middle school children aged 11-13; and 72% of high school aged youths, ages 14-17 were hospitalized due to unintentional injuries. While homicide/assaults remain low among ages 5-13 in Los Angeles County, .9% among ages 5-10 and 4% among ages 11-13, this rises significantly among ages 14-17 at 21%. Even though homicides and assault hospitalizations among youths ages 14-17 have declined by nearly 50% between 1994 and 2003 in Los Angeles County, assaults continue to lead this age-group when compared to other southern California counties (Los Angeles County 80/100,000; San Diego 70/100,000; Riverside,

71/100,000; San Bernardino 41/100,000; and Orange 36/100,000. Similarly among suicide/Self-inflicted and motor vehicle occupant hospitalizations although both categories have declined between 1994 and 2003 and continues to be among the lowest of all southern California counties, these rank within the top five causes of hospitalizations for this age group.

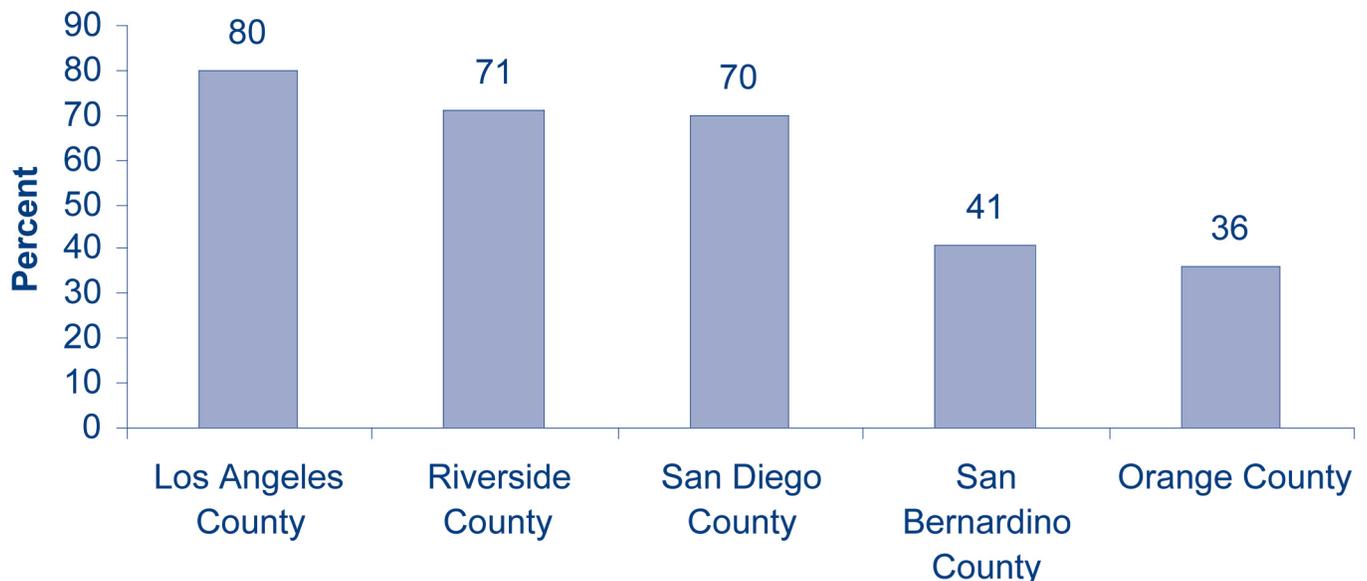
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Percent of injury-related hospitalizations by intent among school-aged group, Los Angeles County, 2003



Back to School Safety...from page 10

Percent of homicides/assaults among high school aged adolescents, 14-17, by County, 2003



While National injury data estimates that only a small proportion of these injuries occur during school hours, this age group is at particular risk due to the contributing age-related risk factors that predispose school-aged children to injury fatality and mortality. Back-to-school time provides an excellent opportunity for to increase awareness of the common behaviors that increase risk to this age group. Keep a look out in the September issue of

The Public's Health for a full article on the status of injury fatality and mortality among school-aged children in Los Angeles County. The article will include local injury data for this age group, common behaviors that contribute to injuries, and a prevention tip section by elementary, middle, and high school categories, that can be pulled out and copied, for distribution for at-risk patients.

Top five causes of injury related fatalities and hospitalizations among ages 14-17, Los Angeles County, 2003

	Freq		Freq
1. Homicide/Assault	68	1. Homicide/Assault	459
2. Motor Vehicle-Occupant	20	2. Falls	385
3. Suicide/Self-Inflicted	15	3. Suicide/Self-Inflicted	344
4. Motor Vehicle-Pedestrian	12	4. Motor Vehicle-Occupant	287
5. Unintentional Drowning	6	5. Unintentional Struck by Object	161

References:

- ¹ Di Scala C, Gallagher SS, Schneps SE. Causes and outcomes of pediatric injuries occurring at school. *J Sch Health* 1997;67:384--9
- ² Op cit
- ³ Op cit
- ⁴ Danesco ER, Miller TR, Kung HC, Murphy SL, Kochanek KD. Deaths: final data for 2001. *National Vital Statistics Reports* 2003;52(3):1-116.

Immunization Update 2005

This live satellite broadcast and webcast will provide up-to-date information on the rapidly changing field of immunization. Anticipated topics include new recommendations for influenza vaccine and an update of the influenza vaccine supply, meningococcal conjugate vaccine, acellular pertussis vaccine for adolescents, and revised varicella vaccine recommendations. Information is available at www.lapublichealth.org/ip/trainconf/IZupdate.pdf. To attend, you must register at www.phppo.cdc.gov/phtnonline/.

Date : Thu, July 28

Time : 9:00am - 11:30am

Location: Health Services Administration, Auditorium - 1st Flr, 313 N. Figueroa St, Los Angeles 90012

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THE PUBLIC'S HEALTH

Newsletter for Medical Professionals in Los Angeles County



COUNTY OF LOS ANGELES
DEPARTMENT OF HEALTH SERVICES
Public Health

313 North Figueroa Street, Room 212
Los Angeles, California 90012

Selected Reportable Diseases (Cases)* - February 2005

Disease	THIS PERIOD	SAME PERIOD	YEAR END TOTALS				
	Feb & March 2005	LAST YEAR Feb & March 2004	2005	2004	2004	2003	2002
AIDS*	291	324	407	490	2,335	2,532	1,719
Amebiasis	24	13	35	19	98	121	102
Campylobacteriosis	105	145	166	224	915	1,100	1,067
Chlamydial Infections	6,514	6,291	9,833	9,452	38,104	36,555	35,688
Encephalitis	16	4	22	12	137	38	61
Gonorrhea	1,620	1,552	2,452	2,228	9,531	8,008	7,800
Hepatitis Type A	33	54	66	85	319	376	438
Hepatitis Type B, Acute	18	17	22	28	71	56	29
Hepatitis Type C, Acute	0	0	0	1	5	0	3
Measles	0	0	0	0	1	0	0
Meningitis, viral/aseptic	41	33	280	74	790	899	466
Meningococcal Infections	10	12	18	21	28	32	46
Mumps	0	0	3	0	2	10	16
Non-gonococcal Urethritis (NGU)	334	304	530	474	1,430	1,393	1,393
Pertussis	50	20	67	41	141	130	170
Rubella	0	0	0	0	0	0	0
Salmonellosis	140	159	221	235	1,185	995	956
Shigellosis	135	64	226	93	550	669	974
Syphilis, primary & secondary	86	62	116	103	445	442	364
Syphilis, early latent (<1 yr.)	64	59	104	83	392	365	353
Tuberculosis	130	112	130	114	856	949	1,025
Typhoid fever, Acute	0	3	0	4	13	16	33

* Case totals are provisional and may vary following periodic updates of the database.